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APPENDIX C TO SUBPART G OF PART 82—
SUBSTITUTES SUBJECT TO USE RE-
STRICTIONS AND UNACCEPTABLE SUB-
STITUTES LISTED IN THE MAY 22, 1996
FINAL RULE, EFFECTIVE JUNE 21,
1996

REFRIGERATION AND AIR CONDITIONING SEC-
TOR—ACCEPTABLE SUBJECT TO USE CONDI-
TIONS

HCFC Blend Delta and Blend Zeta are ac-
ceptable subject to the following conditions
when used to retrofit a CFC-12 motor vehicle
air conditioning system:

1. Each refrigerant may only be used with
a set of fittings that is unique to that refriger-
ant. These fittings (male or female, as ap-
propriate) must be used with all containers
of the refrigerant, on can taps, on recovery,
recycling, and charging equipment, and on
all air conditioning system service ports.
These fittings must be designed to mechani-
cally prevent cross-charging with another re-
frigerant. A refrigerant may only be used
with the fittings and can taps specifically in-
tended for that refrigerant. Using an adapter
or deliberately modifying a fitting to use a
different refrigerant will be a violation of
this use condition. In addition, fittings shall
meet the following criteria, derived from So-
ciety of Automotive Engineers (SAE) stand-
ards and recommended practices:

a. When existing CFC-12 service ports are
to be retrofitted, conversion assemblies shall
attach to the CFC-12 fitting with a thread
lock adhesive and/or a separate mechanical
latching mechanism in a manner that perma-
nently prevents the assembly from being
removed.

b. All conversion assemblies and new serv-
ice ports must satisfy the vibration testing
requirements of sections 3.2.1 or 3.2.2 of SAE
J1660, as applicable, excluding references to
SAE J639 and SAE J2064, which are specific
to HFC-134a.

c. In order to prevent discharge of refriger-
ant to the atmosphere, systems shall have
a device to limit compressor operation be-
fore the pressure relief device will vent re-

frigerant. This requirement is waived for
systems that do not feature such a pressure
relief device.

d. All CFC-12 service ports not retrofitted
with conversion assemblies shall be rendered
permanently incompatible for use with CFC-
12 related service equipment by fitting with
a device attached with a thread lock adhe-
sive and/or a separate mechanical latching
mechanism in a manner that prevents the
device from being removed.

2. When a retrofit is performed, a label
must be used as follows:

a. The person conducting the retrofit must
apply a label to the air conditioning system
in the engine compartment that contains the
following information:

i. The name and address of the technician
and the company performing the retrofit.

ii. The date of the retrofit.

iii. The trade name, charge amount, and,
when applicable, the ASHRAE refrigerant
numerical designation of the refrigerant.

iv. The type, manufacturer, and amount of
lubricant used.

v. If the refrigerant is or contains an
ozone-depleting substance, the phrase "ozone
depleter."

vi. If the refrigerant displays flammability
limits as measured according to ASTM E681,
the statement "This refrigerant is FLAM-
MABLE. Take appropriate precautions."

b. This label must be large enough to be
easily read and must be permanent.

c. The background color must be unique to
the refrigerant.

d. The label must be affixed to the system
over information related to the previous re-
frigerant, in a location not normally re-
placed during vehicle repair.

e. Information on the previous refrigerant
that cannot be covered by the new label
must be permanently rendered unreadable.

3. No substitute refrigerant may be used to
"top-off" a system that uses another refriger-
ant. The original refrigerant must be re-
covered in accordance with regulations
issued under section 609 of the CAA prior to
charging with a substitute.

SOLVENT CLEANING SECTOR—PROPOSED ACCEPTABLE SUBJECT TO USE CONDITIONS SUBSTITUTES

Application	Substitute	Decision	Conditions	Comments
Metals Cleaning with CFC-113, MCF and HCFC- 141b.	Monochlorotoluen- es and benzotrifluorides.	Acceptable	Subject to a 50 ppm workplace standard for monochlorotoluenes and a 25 ppm standard for benzotrifluorides.	The workplace standard for monochlorotoluenes is based on an OSHA PEL of 50 ppm for orthochlorotoluene. The workplace standard for benzotrifluorides is based on a recent toxicology study.

SOLVENT CLEANING SECTOR—PROPOSED ACCEPTABLE SUBJECT TO USE CONDITIONS
SUBSTITUTES—Continued

Application	Substitute	Decision	Conditions	Comments
Electronics Cleaning w/ CFC-113, MCF and HCFC-141b.	Monochlorotoluenes and benzotrifluorides.	Acceptable	Subject to a 50 ppm workplace standard for monochlorotoluenes and a 25 ppm standard for benzotrifluorides.	The workplace standard for monochlorotoluenes is based on an OSHA PEL of 50 ppm for orthochlorotoluene. The workplace standard for benzotrifluorides is based on a recent toxicology study.
Precision Cleaning w/ CFC-113, MCF and HCFC-141b.	Monochlorotoluenes and benzotrifluorides.	Acceptable	Subject to a 50 ppm workplace standard for monochlorotoluenes and a 25 ppm standard for benzotrifluorides.	The workplace standard for monochlorotoluenes is based on an OSHA PEL of 50 ppm for orthochlorotoluene. The workplace standard for benzotrifluorides is based on a recent toxicology study.

ACCEPTABLE SUBJECT TO NARROWED USE LIMITS: STREAMING AGENTS

Application	Substitute	Decision	Comments
Halon 1211 Streaming Agents	CF ₃ I	Acceptable in non-residential uses only.	

AEROSOLS—PROPOSED ACCEPTABLE SUBJECT TO USE CONDITIONS SUBSTITUTES

Application	Substitute	Decision	Conditions	Comments
CFC-113, MCF and HCFC-141b as solvent.	Monochlorotoluenes and benzotrifluorides.	Acceptable	Subject to a 50 ppm workplace standard for monochlorotoluenes and a 25 ppm standard for benzotrifluorides.	The workplace standard for monochlorotoluenes is based on an OSHA PEL of 50 ppm for orthochlorotoluene. The workplace standard for benzotrifluorides is based on a recent toxicology study.

ADHESIVES, COATINGS AND INKS—PROPOSED ACCEPTABLE SUBJECT TO USE CONDITIONS
SUBSTITUTES

Application	Substitute	Decision	Conditions	Comments
CFC-113, MCF and HCFC-141b.	Monochlorotoluenes and benzotrifluorides.	Acceptable	Subject to a 50 ppm workplace standard for monochlorotoluenes and a 25 ppm standard for benzotrifluorides.	The workplace standard for monochlorotoluenes is based on an OSHA PEL of 50 ppm for orthochlorotoluene. The workplace standard for benzotrifluorides is based on a recent toxicology study.

[61 FR 25592, May 22, 1996, as amended at 67 FR 4201, Jan. 29, 2002]

EFFECTIVE DATE NOTE: At 61 FR 25592, May 22, 1996, Appendix C to Part 82 Subpart G was added. This appendix contains information collection and recordkeeping requirements which will not become effective until approval has been given by the Office of Management and Budget.